

REMARKS

In response to the Office Action mailed on February 9, 2005, Applicants respectfully request reconsideration. To further the prosecution of this Application, Applicants submit the following amendments as well as remarks discussing patentability of rejected and newly added claims.

Claims 1-22 were previously pending in the subject Application. Claims 23-30 are being added by way of this amendment. Thus, after entry of this Amendment, claims 1-30 will be pending. No new matter was added to the application when adding the new claims.

The following remarks address the rejections of claims 1-22 as set out in the present Office Action as well as patentability of newly added claims 23-30. Applicants respectfully request reconsideration.

Rejection of Pending Claim 2 under 35 U.S.C. §102(b)

Applicants have copied the limitations of original claim 1 into respective dependent claims 2 and 4. Thus, no new matter has been presented in the pending claims.

The Examiner has rejected claim 2 under 35 U.S.C. §102(b) as being anticipated by Barker (U.S. Patent 5,931,916). The Office Action likens elements in Barker to those in claim 2 to reject the claimed invention.

In general, Barker discloses a method of reliably transferring data across Internet type networks (column 1, lines 52-53). The claimed invention is directed towards inserting extra data into packets transmitted across a network from a source node to a destination node. For example, an intermediate device (e.g., a data communication device) in the network can intercept packets received from

the source node, add extra data to the intercepted packet, and forward the modified packet with extra data over the network to the destination node.

Applicants have reviewed the language of claim 2 in light of the cited Barker reference and would like to point out differences between claim 2 and the system as disclosed by Barker.

The Office Action cites Barker at column 5, lines 17-20 as being equivalent to the claimed step of “adjusting the acknowledgment information in the second packet based upon the first amount of extra data inserted into the first packet”. The cited passage reads as follows:

“The RDP driver 50 of the destination node 12 on receipt of a first message sets its sequence number for receipt of datagrams from the respective source node identified by the SN byte to the sequence value specified in the sequence byte. The receiving RDP driver will return a datagram including the sequence number and with the acknowledge bit (A) set in the flag field.” (emphasis added)

Applicants of the present application submit that this disclosure by Barker is not what Applicants are claiming as their invention. First, Applicants respectfully submit that claim 2 recites that the steps occur “In a data communications device”, not among multiple devices disposed across a network as in Barker. Second, and perhaps more importantly, there is no indication in this cited passage that the information sent from the RDP driver of the destination node in Barker adjusts a value of the sequence information in the so-called second packet returned to the source node depending on the extra data inserted into the first received data packet at the destination node. For example, at column 5, lines 24-44 as further cited by the Examiner, Barker further discloses:

“The first datagram transferred between the transmitting node 10 and the destination node 12 does not currently carry any data from a user process although this is possible. The data length byte will be set to zero and no data will follow. In a development of the current system the first datagram transmitted is used to adapt a sliding window determining the number of datagrams which may be transferred between a transmitting node and a destination node prior to an acknowledgement being sent.”

“In this case when the first transmission occurs from the transmitting node 10 the node will include a value which the transmitting end is adapted to work to as a maximum. On receipt the destination node 12 either accepts the value proposed by the transmitting end if it is within the capability of the receiving node. If, however, the receiving node 12 has a maximum capacity (window) less than the value proposed by the transmitting node 10, then in returning an ACK (acknowledge signal) to the transmitting node the destination node 12 puts forward its own maximum value. The revised value is then adopted by the transmitting node 10.” (emphasis added)

Thus, according to Barker, the destination node merely notifies the sender node of its maximum possible sequence value for receiving datagrams from the source node. There is no indication whatsoever that the “maximum value” has anything to do with or is generated based on the extra data inserted into the first packet received at the destination node. Further, the sequence value does not have anything to do with the size of a received packet, especially not the amount of extra data added in the first packet. Instead, the maximum value sequence number in Barker identifies a number of datagrams that can be sent prior to an ACK being sent. Consequently, this cited passage does not teach every element of the claimed invention and the rejection should be withdrawn.

The claimed invention is advantageous because the claimed data communications device supports a method of inserting extra data in a first packet from a source node to a destination node. In a return direction, from the destination node, the data communication device modifies a received ACK message from the destination node and forwards a modified ACK to the source node instead of the original ACK generated by the destination node. Based on this method, the data communication device can insert extra data into packets without the whole communication session breaking down between the source node and the destination node. In other words, the data communication device “fixes” ACK messages from the destination node sent to the source node. Barker does not state the problem and therefore does not teach a way to overcome the technical problem of inserting extra data into messages transmitted over a network as does the claimed invention.

For the reasons stated above, Applicants submit that claim 2 is patentably distinct and advantageous over the cited prior art, and the rejection of claim 2 under 35 U.S.C. §102(b) should be withdrawn. Accordingly, allowance of claim 2 is respectfully requested. If the rejection of claim 2 is to be maintained, Applicants respectfully request that it be pointed out with particularity where the cited prior art discloses the cited claim limitations.

Because claims 3 and 6 depend from and further limit claim 2, Applicants respectfully submit that claims 3 and 6 are in allowable condition as well. Also, Applicants would like to point out further distinctions associated with claims 3 and 6.

Rejection of Pending Claim 3 under 35 U.S.C. §103(a)

The Examiner has rejected claim 3 under 35 U.S.C. §102(a) as being unpatentable over Barker (U.S. Patent 5,931,916) in view of Muller (U.S. Patent

6,128,666). The Office Action likens elements in Barker and Muller to those in claim 3 to reject the claimed invention.

Applicants have reviewed the language of claim 3 in light of the cited Barker and Muller references and would like to point out differences between claim 3 and the systems as disclosed by Barker and Muller.

For example, the Office Action cites Muller at column 10, lines 15-25 as being equivalent to the claimed step of “subtracting from the acknowledgement information a value equal to the first amount of extra data added to the first packet”. The cited passage reads as follows:

“Thus at step 796, if the tag is to be stripped, the OPP removes the tag, preferably as the tag is transferred to the MAC, step 798. At step 800, if no CRC is to be generated, the OPP sends a signal indicating that no CRC is to be generated (e.g., set no.sub.-- CRC), step 802, and the MAC transmits the packet as it is received. If the CRC is to be generated, at step 806, the last 4 bytes are removed from the packet by the OPP, a signal to generate the CRC is sent to the MAC, (clear no.sub.-- CRC), step 808, and at step 810, the MAC transmits the packet and generates the CRC to append to the end of the packet.” (emphasis added)

Based on this passage, the Examiner asserts that Muller teaches of a tag removal of the inserted data from the packet upon transferring of the packet.

In response to the rejection, Applicants of the present application submit that this disclosure by Muller as well as cited passages in Barker is not what Applicants are claiming as their invention. For the reasons stated above, Barker does not teach this claim element. As a further note, Applicants respectfully submit that the cited passage provides no support whatsoever of the claim limitation as well. For example, the cited passage in Muller discloses stripping a

tag form a data packet and potentially generating a CRC value. First, in Barker, the Examiner cites processes performed different nodes of a network. In Muller, the operation occurs at a single node. Thus, the references cannot be combined in any meaningful way so as to render the claimed invention obvious. Second, the processing in Muller also has nothing to do with a sequence number and therefore cannot be combined with the teachings of Barker to teach this claim limitation. Third, and perhaps more importantly, the claimed invention recites a limitation not found in either cited reference. For example, the claimed invention is not directed to removing a tag from a packet or setting a sequence number to a maximum acceptable value. Instead, the claimed invention involves "subtracting from the acknowledgement information a value equal to the first amount of extra data added to the first packet." Neither Barker nor Muller recite a mathematical operation of subtracting, especially an amount equal to the extra data added to the first data packet. This is not cited in either of the references.

Applicants submit that claim 3 is patentably distinct over the cited prior art, and the rejection of claim 3 under 35 U.S.C. §103(a) should be withdrawn. Accordingly, allowance of claim 3 is respectfully requested. If the rejection of claim 3 is to be maintained, Applicants respectfully request that it be pointed out with particularity where the cited prior art discloses the cited claim limitations.

Rejection of Pending Claim 6 under 35 U.S.C. §102(b)

The Examiner has rejected claim 6 under 35 U.S.C. §102(b) as being anticipated by Barker (U.S. Patent 5,931,916). The Office Action likens elements in Barker to those in claim 6 to reject the claimed invention.

Applicants have reviewed the language of claim 6 in light of the cited Barker reference and would like to point out differences between claim 6 and the system as disclosed by Barker.

The Office Action cites Barker at column 6, lines 28-32 as being equivalent to the claimed step of “continuing to exchange subsequent packets between the first and second computerized devices, and for each packet exchanged, adjusting connection state information including sequence and acknowledgement information to account for extra data added into all packets exchanged between the first and second computerized devices such that the first and second computerized devices are able to maintain proper respective first and second connection states.” The cited passage reads as follows:

“However, in a preferred method of operation as hereinbefore referred to where a window of "N" messages is acceptable prior to acknowledgement being received, then messages may be transferred in sequence until the maximum number of outstanding ACK awaited datagrams has been sent. Thus, sequence numbers are incremented by the sending node RDP driver 50 for each transmitted datagram and reset if an acknowledgement is not received. The receiving RDP driver 50 checks the message sequence number upon the arrival of each datagram.”
(emphasis added)

Based on this passage, the Examiner asserts that Barker et al shows exchanging messages up to a specified number before an acknowledge of the modified datagrams keeping the connection states current between the two devices.

Applicants of the present application submit that this disclosure by Barker is not what Applicants are claiming as their invention. For example, the claimed invention does not read on setting a limit on a sequence number as in Barker. Instead, the claimed invention involves exchanging additional packets and adjusting sequence and ACK information to account for extra data added in each of the exchanged packets. In comparison, the cited reference sets a sequence value a single time for a session including exchange of multiple datagrams. There is no indication whatsoever that Barker modifies the sequence and ACK

information for each data packet based on an amount of extra data added to a respective data packet exchanged between computers. Merely sending a sequence of packets does not anticipate the claimed invention.

For the reasons stated above, Applicants submit that claim 2 is patentably distinct over the cited prior art, and the rejection of claim 6 under 35 U.S.C. §102(b) should be withdrawn. Accordingly, allowance of claim 6 is respectfully requested. If the rejection of claim 6 is to be maintained, Applicants respectfully request that it be pointed out with particularity where the cited prior art discloses the cited claim limitations.

Rejection of Pending Claim 4 under 35 U.S.C. §102(b)

Applicants have copied the limitations of original claim 1 into respective dependent claim 4. Thus, no new matter has been presented in the pending claims.

The Examiner has rejected claim 4 under 35 U.S.C. §102(b) as being anticipated by Barker (U.S. Patent 5,931,916). The Office Action likens elements in Barker to those in claim 4 to reject the claimed invention.

Applicants have reviewed the language of claim 4 in light of the cited Barker reference and would like to point out differences between claim 4 and the system as disclosed by Barker.

For example, the Office Action cites Barker at column 5, lines 57-60 as being equivalent to the claimed step of “adjusting sequence information in a subsequent packet being propagated, after the first packet, from the first computerized device to the second computerized device to account for the extra data added into the first packet”. The cited passage reads as follows:

“It should be noted that more than one process may be transferring data between the nodes 10 and 12 at the same time and such data will be transferred sequentially once a first successful data transfer has occurred and the initially transmitting node 10 has received a valid return datagram including the correct sequence number and setting of the A flag. Subsequent datagrams will be forwarded by the source node 10 without the S flag being set.” (emphasis added)

Based on this passage, the Examiner asserts that Barker shows data will be transferred sequentially once a first successful data transfer has occurred. As discussed, this is known in the prior art. However, Applicants of the present application submit that this disclosure by Barker is not what Applicants are claiming as their invention.

For example, claim 4 indicates that the data communication device of the claimed invention also adjusts sequence information associated with subsequent packets from the second computer directed to the first computer device. Barker does not provide any indication whatsoever that the second computer (e.g., destination computer) adjusts its sequence information to account for extra data added in the first packet or any of each additional packet. Thus, there is no connection between the extra data and adjusting the sequence information in a return direction. The Examiner’s assertion of merely pointing out that Barker shows that data will be transferred sequentially once a first successful data transfer has occurred does not teach the claimed invention.

Consequently, Applicants submit that claim 4 is patentably distinct and advantageous over the cited prior art, and the rejection of claim 4 under 35 U.S.C. §102(b) should be withdrawn. Accordingly, allowance of claim 4 is respectfully requested. If the rejection of claim 4 is to be maintained, Applicants respectfully request that it be pointed out with particularity where the cited prior art discloses the cited claim limitations.

Because claims 5-10 depend from and further limit claim 4, Applicants respectfully submit that claims 5-10 are in allowable condition as well. Also, Applicants would like to point out further distinctions associated with claims 5-10.

Rejection of Pending Claim 5 under 35 U.S.C. §102(b)

The Examiner has rejected claim 5 under 35 U.S.C. §102(b) as being anticipated by Barker (U.S. Patent 5,931,916). The Office Action likens elements in Barker to those in claim 5 to reject the claimed invention.

Applicants have reviewed the language of claim 5 in light of the cited Barker reference and would like to point out differences between claim 5 and the system as disclosed by Barker.

For example, the Office Action cites Barker at column 5, lines 17-23 as being equivalent to the claimed step of “adding to the sequence information a value equal to the first amount of extra data added to the first packet such that the step of forwarding the subsequent packet causes the second computerized device to receive the adjusted sequence information.” The cited passage reads as follows:

“The RDP driver 50 of the destination node 12 on receipt of a first message sets its sequence number for receipt of datagrams from the respective source node identified by the SN byte to the sequence value specified in the sequence byte. The receiving RDP driver will return a datagram including the sequence number and with the acknowledge bit (A) set in the flag field.” (emphasis added)

Based on this passage, the Examiner asserts that Barker “shows a first packet with a sequence number being sent to a second device. This data is part of the extra data being added to the first packet. Once the second device receives this

packet with the extra data a return packet is sent with an acknowledgement.” However, Applicants of the present application submit that this disclosure by Barker is not what Applicants are claiming as their invention.

For example, Applicants do not disagree with the Examiner that a source node in Barker sends a message to a destination node. Further, Applicants do not disagree that the destination node provides an ACK to the source node indicating receipt of the appropriate number of datagrams. However, Applicants submit that there is no indication whatsoever that this passage discloses a particular technique of adding a value equal to the first amount of extra data (in the received packet) to the sequence number. In fact, there is no language providing this feature.

Consequently, Applicants submit that claim 5 is also patentably distinct over the cited prior art, and the rejection of claim 5 under 35 U.S.C. §102(b) should be withdrawn. Accordingly, allowance of claim 5 is respectfully requested. If the rejection of claim 5 is to be maintained, Applicants respectfully request that it be pointed out with particularity where the cited prior art discloses the cited claim limitations.

Rejection of Pending Claim 7 under 35 U.S.C. §102(b)

The Examiner has rejected claim 7 under 35 U.S.C. §102(b) as being anticipated by Barker (U.S. Patent 5,931,916). The Office Action likens elements in Barker to those in claim 7 to reject the claimed invention.

Applicants have reviewed the language of claim 7 in light of the cited Barker reference and would like to point out differences between claim 7 and the system as disclosed by Barker.

The Office Action cites Barker at column 11, lines 53-58 as being equivalent to the claimed step of “modifying connection information within packets passing through the data communications device that are exchanged between the first and second computerized devices to allow the first and second computerized devices to maintain proper respective first and second connection states regardless of the amount of extra data added in the packets.” The cited passage reads as follows:

“Now at step 250 a datagram is built in which the acknowledge bit is set but the set window acknowledgement is not requested. Thus the returned datagram includes the sequence number as stored and received, the "A" bit set, the "S" bit at zero and again at step 255 the datagram is transferred to the user datagram protocol module 41 and the receive side of the RDP module 50 enters an idle state pending receipt of further datagrams” (emphasis added)

Based on this passage, the Examiner asserts that Barker shows flags that were modified in transmission to maintain proper respective states. However, Applicants of the present application submit that this disclosure by Barker is not what Applicants are claiming as their invention.

Applicants submit that there is no indication whatsoever that this passage discloses a particular technique in which a data communications device modifies packets passing through itself to maintain connection states regardless of the amount of extra data is added in the packets. Barker does not generate the cited flags depending on the amount of extra data inserted into the exchanged packets. That is, the A-bit and the S-bit in Barker as cited in the Office Action do are not set and not depend on the amount of extra data inserted into the exchanged packets. Thus, the cited reference does not teach the claimed invention.

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Consequently, Applicants submit that claim 7 is also patentably distinct over the cited prior art, and the rejection of claim 7 under 35 U.S.C. §102(b) should be withdrawn. Accordingly, allowance of claim 7 is respectfully requested. If the rejection of claim 7 is to be maintained, Applicants respectfully request that it be pointed out with particularity where the cited prior art discloses the cited claim limitations.

Rejection of Pending Claim 9 under 35 U.S.C. §102(b)

The Examiner has rejected claim 9 under 35 U.S.C. §102(b) as being anticipated by Barker (U.S. Patent 5,931,916). The Office Action likens elements in Barker to those in claim 9 to reject the claimed invention.

Applicants have reviewed the language of claim 9 in light of the cited Barker reference and would like to point out differences between claim 9 and the system as disclosed by Barker.

For example, the Office Action cites Barker at column 5, lines 21-23 as being equivalent to the claimed step of “adjusting the acknowledgment information in the second packet based upon the first amount of extra data inserted into the first packet.” The cited passage reads as follows:

“The receiving RDP driver will return a datagram including the sequence number and with the acknowledge bit (A) set in the flag field.” (emphasis added)

Based on this passage, the Examiner asserts that Barker shows the return datagram is adjusted according to the information sent in the first packet. However, Applicants respectfully disagree with this assertion.

Applicants submit that there is no indication whatsoever that this passage discloses a particular technique in which a data communications device adjusts

acknowledgment information in the second data packet based upon the amount of extra data inserted into the first packet. First, there is no indication that the destination computer receiving the packet has any knowledge that bits have been added. Consequently, there is no way that the destination computer would be able to adjust ACK information in a return packet back to the source computer. Thus, the cited reference does not teach all of the limitations in claim 9. Further, claim 9 includes additional limitations over Barker.

Consequently, Applicants submit that claim 9 is also patentably distinct over the cited prior art, and the rejection of claim 9 under 35 U.S.C. §102(b) should be withdrawn. Accordingly, allowance of claim 9 is respectfully requested. If the rejection of claim 9 is to be maintained, Applicants respectfully request that it be pointed out with particularity where the cited prior art discloses the cited claim limitations.

Rejection of Pending Claims 11-22 under 35 U.S.C. §102(b) and § 103(a)

Applicants have canceled claim 11. Applicants have modified claims 12 and 14 to include the limitations of original claim 11.

Applicants respectfully submit that claims 12, 13, and 16 includes similar patentable distinctions over the cited prior art as discussed for claims 2, 3, and 6. Thus, Applicants respectfully request allowance of claim 12 as well as corresponding dependent claims 13 and 16.

Applicants respectfully submit that claims 14, 15, and 17-20 include similar patentable distinctions over the cited prior art as discussed for claims 4, 5, and 7-10. Thus, Applicants respectfully request allowance of claim 14 as well as corresponding dependent claims 15, and 17-20.

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Claims 21 and 22 have been modified to include the limitations of original claim 4 and therefore also should be in condition for allowance.

New claims 23-30

Support for newly submitted claim 23, 24, 29, and 30 can be found in Figure 2 as well as corresponding text in the subject application. None of the cited references discloses this configuration of enabling insertion of extra data in packets transmitted between first and second computers in a network.

Support for newly submitted claim 25 and 26 can be found at page 6 lines 1-24 and elsewhere throughout the specification.

Support for newly submitted claim 27 can be found at page 4 line 19 to page 5 line 9 and elsewhere throughout the specification.

Support for newly submitted claim 28 can be found at page 16 lines 5 to 29 and elsewhere throughout the specification. Applicant respectfully request allowance of these claims as well.

CONCLUSION

In view of the foregoing remarks, Applicants submit that the pending claims as well as newly added claims are in condition for allowance. A Notice to this affect is respectfully requested. If the Examiner believes, after reviewing this Response, that the pending claims are not in condition for allowance, the Examiner is respectfully requested to call the Representative.

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Applicants hereby petition for any extension of time which is required to maintain the pendency of this case. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50-0901.

Respectfully submitted,



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